

CLAIMS

What is claimed is:

1. An isolated polypeptide molecule comprising a contiguous sequence of 14 amino acids of SEQ ID NO:2.

2. An isolated polypeptide molecule according to claim 1, wherein the polypeptide molecule comprises residues 437 to 450 of SEQ ID NO:2.

3. An isolated polypeptide molecule according to claim 1 wherein the polypeptide molecule is between 82 and 232 amino acids in length.

4. An isolated polypeptide molecule according to claim 3 wherein the polypeptide molecule is residues 164 to 382 of SEQ ID NO:2.

5. An isolated polypeptide molecule according to claim 3 wherein the polypeptide molecule is residues 383 to 464 of SEQ ID NO:2.

6. An isolated polypeptide molecule according to claim 3 wherein the polypeptide molecule is residues 465 to 696 of SEQ ID NO:2.

7. A isolated polypeptide molecule selected from the group consisting of:

a) a polypeptide molecule comprising residues 164 to 382 of SEQ ID NO:2;

b) a polypeptide molecule comprising residues 383 to 464 of SEQ ID NO:2;

- c) a polypeptide molecule comprising residues 465 to 696 of SEQ ID NO:2;
- d) a polypeptide molecule comprising residues 438 to 449 of SEQ ID NO:2;
- e) a polypeptide molecule comprising residues 164 to 464 of SEQ ID NO:2;
- f) a polypeptide molecule comprising residues 164 to 696 of SEQ ID NO:2;
- g) a polypeptide molecule comprising residues 383 to 696 of SEQ ID NO:2;
- h) a polypeptide molecule comprising residues 164 to 449 of SEQ ID NO:2;
- i) a polypeptide molecule comprising residues 438 to 696 of SEQ ID NO:2; and
- j) a polypeptide molecule comprising residues 1 to 696 of SEQ ID NO:2.

Sub A1 8. An isolated polynucleotide molecule encoding a polypeptide molecule, wherein the polypeptide molecule comprises a contiguous sequence of 14 amino acids of SEQ ID NO:2.

Sub A1 9. An isolated polynucleotide molecule according to claim 8, wherein the polypeptide molecule comprises residues 437 to 450 of SEQ ID NO:2.

10. An isolated nucleotide molecule according to claim 8, wherein the polypeptide molecule is between 82 and 232 amino acids in length.

Sub A2 11. An isolated polynucleotide molecule according to claim 10, wherein the polypeptide molecule is residues 164 to 382 of SEQ ID NO:2.

SubA2 12. An isolated polynucleotide molecule according to claim 10, wherein the polypeptide molecule is residues 383 to 464 of SEQ ID NO:2.

13. An isolated polynucleotide molecule according to claim 10, wherein the polypeptide molecule is residues 465 to 696 of SEQ ID NO:2.

14. A isolated polynucleotide molecule encoding a polypeptide molecule, wherein the polypeptide molecule is selected from the group consisting of:

- a) a polypeptide molecule comprising residues 164 to 382 of SEQ ID NO:2;
- b) a polypeptide molecule comprising residues 383 to 464 of SEQ ID NO:2;
- c) a polypeptide molecule comprising residues 465 to 696 of SEQ ID NO:2;
- d) a polypeptide molecule comprising residues 438 to 449 of SEQ ID NO:2;
- e) a polypeptide molecule comprising residues 164 to 464 of SEQ ID NO:2;
- f) a polypeptide molecule comprising residues 164 to 696 of SEQ ID NO:2;
- g) a polypeptide molecule comprising residues 383 to 696 of SEQ ID NO:2;
- h) a polypeptide molecule comprising residues 164 to 449 of SEQ ID NO:2;
- i) a polypeptide molecule comprising residues 438 to 696 of SEQ ID NO:2; and
- j) a polypeptide molecule comprising residues 1 to 696 of SEQ ID NO:2.

SubA3 15. An isolated polynucleotide encoding a fusion protein having a first segment and a second segment, wherein

the first segment comprises a first polypeptide encoding a polypeptide having a protease domain and the second segment comprises a second polynucleotide encoding a polypeptide that has a contiguous sequence of 14 amino acids between residues 383 and 464 of SEQ ID NO:2, and wherein the first segment is positioned amino-terminally to the second segment.

16. An isolated polynucleotide according to claim 15, wherein the protease domain is selected from the group consisting of;

- a) a protease domain that is a member of the Disintegrin Proteases; and
- b) a protease domain that is at least 80% identical to amino acid residues 164 to 382 of SEQ ID NO:2.

17. An isolated polynucleotide molecule encoding a polypeptide molecule wherein the polynucleotide molecule is selected from the group consisting of:

- a) a polynucleotide molecule that encodes a polypeptide molecule that is at least 80 % identical to residues 383 to 464 of SEQ ID NO:2; and
- b) a polynucleotide molecule that is complementary to a).

Sub A4 18. An isolated polynucleotide molecule according to claim 17 wherein the polynucleotide molecule is selected from the group consisting of:

- a) a polynucleotide molecule that encodes a polypeptide molecule that is at least 80 % identical to residues 383 to 696 of SEQ ID NO:2; and
- b) a polynucleotide molecule that is complementary to a).

Sub A3

19. An isolated polynucleotide molecule according to claim 17, wherein the polynucleotide molecule is selected from the group consisting of:

a) a polynucleotide molecule that encodes a polypeptide molecule that is at least 80 % identical to residues 1 to 696 of SEQ ID NO:2; and

b) a polynucleotide molecule that is complementary to a).

20. An expression vector comprising the following operably linked elements:

a) a transcription promoter;

b) a DNA segment encoding the polypeptide of claim 1; and

c) a transcription terminator.

21. An expression vector of claim 20 wherein the DNA segment further encodes an affinity tag.

22. A cultured cell into which has been introduced an expression vector according to claim 21, wherein said cell expresses the polypeptide encoded by the DNA segment.

23. A method of producing a polypeptide comprising culturing a cell according to claim 22, whereby said cell expresses the polypeptide encoded by the DNA segment; and recovering the polypeptide.

24. A method for modulating cell-cell interactions by combining the polypeptide according to claim 1, with cells in vivo and in vitro.

25. A method for modulating cell-cell interactions according to claim 24, whereby the cells are derived from tissues selected from the group consisting of:

- a) tissues from heart;
- b) tissues from brain;
- c) tissues from spinal cord; and
- d) tissues from skeletal muscle.

26. An isolated polypeptide molecule comprising a contiguous sequence of amino acids, wherein the contiguous sequence of amino acids is selected from the group consisting of:

- a) SEQ ID NO:7;
- b) SEQ ID NO:8;
- c) SEQ ID NO:9;
- d) SEQ ID NO:10; and
- e) SEQ ID NO:11.

27. An isolated polynucleotide molecule encoding the isolated polypeptide molecule of claim 26.

addA57